D R A F T
Interruptible Rates
Background Discussion

The intent of this paper is to provide background to a discussion of interruptible rates. It provides an overview of the issue of interruptible rates, defines the types of such rates and looks at options that the Rate Advisory Committee might wish to address.

An interruptible rate is a discount provided to an end user for providing the right of City Light to interrupt the load. The discount can come in three ways: as a payment during an actual interruption by the utility, as a reduction in the rate with no payment during an actual interruption or a combination of the first two. The principal advantage of paying for actual interruptions is that circumstances may not call for such an interruption or alternatives that are cheaper can be used. The principal argument for making an ongoing payment of some type is that, for the end user, there are planning, training and standby costs that need to be recovered; without a recovery mechanism, there is less incentive to join in an interruptible rate program. A combination of actual-interruption and ongoing costs may meet both objectives.

There are four principal types of interruptible rates: 1) interruptible rates for transmission purposes; 2) interruptible rates for energy purposes; 3) interruptible rates for load-retention purposes; and 4) interruptible rates to reduce the rate level or alter/correct a rate design. Properly set, the first three of these can provide mutual benefit to the end user and the utility's other rate payers. The fourth represents a type of policy option that benefits one (or more) class of customers at the expense of others, whether that change be legitimate—in the sense of correcting cross-subsidies within the rates—or simply to provide a lower rate to one class of customers.

Interruptible Rates for Transmission Purposes: The amount of power that can be delivered is, of course, limited by the capability to transmit that power. In times of (extreme) peak load, there may be insufficient transmission capacity to deliver power and, absent other measures to alleviate the constraint, the alternative would be to shut power off to some or all customers. If a customer agrees to be shut down, that capacity can be used for others on a utility system. There is, potentially, a mutually beneficial arrangement to utility customers and to an end user in terms of lowered rates.

Whether or not such an arrangement is reasonable would rely on the needs of the utility in conjunction with the ability of an end user to take an interruption. On

both sides, issues of duration and frequency of an outage and the assurance of "performance" would play into any interruptible credit set.

Interruptible Rates for Energy Purposes. The second form of potentially mutually beneficial arrangements is an interruptible rate in order for the utility to avoid the purchase of expensive short-term energy. If, for example, a utility can avoid the purchase of power at $250 a MWh and only lose a sale at $50 a MWh, all rate payers would gain from an arrangement between the utility and an end user. This type of arrangement was employed during the 2000-2001 California price runup at several utilities in the region.

Generally, this type of arrangement involves a share-the-savings agreement wherein, for example, the other customers get X percent of the savings and the end user gets the remainder. In the example above, the $200 in net savings would be shared between the utility customers and the end-user.

The end user's willingness to participate in such a program will likely depend on more than just the electricity saving it sees. It must weigh product prices, lost production, labor force impacts and other factors in deciding whether or not to participate at any time. And, these factors will be constantly changing.

As a consequence, it would be difficult for, say, the Rate Advisory Committee, to establish what the X above should be. X might be sufficient in some cases and not in another.

Interruptible Rates for Load Retention Purposes In reality, the "interruptible rates" here are not designed to provide the general rate payers with a direct quid pro quo, such as lower-cost energy or access to short capacity. Rather, the interruptibility provision in this type of rate is intended to lower rates to certain end users in order to keep their load on the system. The provision is, essentially, a stop-loss measure for the general rate payers. As a result of this provision, the general rate payer is made better off than it would be absent this provision.

The circumstance arises when an end user is unable to pay the fully allocated cost of service. (Determining whether or not in can pay that amount is a matter of judgment for the utility.) If the utility were to lose this customer it would lose the full revenue amount, and the unrecovered costs would become the obligation of the remaining rate payers. However, if that end user can pay a portion of that rate, then the loss to the other rate payers could be reduced if the actual incremental cost to serving that customer is less than what it pays.

For example, suppose a customer pays $50 a MWh for service to 100 MWh. Losing that customer would cost the utility $5000 in revenue. The net loss, of course, would be the lost revenue minus the avoided cost of serving that customer. If the

avoided cost was $20 a MWh, then the loss would be $3000 in net revenue. Now, suppose the customer could pay $40 a MWh. The loss to the utility would only be $1000, instead of $3000. As a consequence, the utility's other rate payers are better off by allowing one end user to get a lower rate through, perhaps, some interruptibility provision.

The reason this might be beneficial to the rate payer as a whole is that the end user makes some but not a full, equitable contribution to the utility's fixed costs.

There are several hurdles in setting a load-retention rate, interruptible or not, is the level of discount. 1) An end user is unlikely to provide its bottom line as far as what discount it would accept, so the utility/city council has to make a judgment call on a discount. 2) The need to discount is dependent on the end user's product-market conditions; if the price of the end product rises, the need for a discount is reduced. 3) At some point, a discounted service might become a financial loser to the remaining customers—for example, when service to that load requires the acquisition of new (expensive) resources or for any other reason when marginal cost of service to that load is less than the rate charged.

It is unlikely that the RAC can provide much input into a load-retention rate offering, primarily because much of the information about the need for such a rate is likely to be highly confidential. It is more likely that the technical decision to analyze a reasonable discount would be done by City Light staff and the decision to make an offer would be in the political arena, as in the Nucor case.

Interruptible Rates as Means to Reduce Rate Level

An interruptible rate can be used simply to reduce the rate level to an end user. There may be other reasons to make such an offer, but one likely reason would be that the utility has made a rate-design error, and eliminating such an error would eliminate an adverse cross-subsidy from the end user. Under these circumstances, it is further likely that the utility and its governing board would be contemplating a rate-design correction in the near future but was providing a discount as a temporizing measure.